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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/537,087

12/05/2005

Hermann Curtins

05073

8243

23338 7590 05/12/2008  
DENNISON, SCHULTZ & MACDONALD  
1727 KING STREET  
SUITE 105  
ALEXANDRIA, VA 22314

EXAMINER

BAND, MICHAEL A

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

05/12/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/537,087	<b>Applicant(s)</b> CURTINS, HERMANN	
	<b>Examiner</b> MICHAEL BAND	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/2/2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/5/2005</u> .                                               | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2, 5-10, and 12-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "the secondary envelope" and "the third envelope". There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 5, 10, and 12, the phrase "especially" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claims 6-7 and 13-15, the phrase "preferably" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claim 8, the phrase "in particular" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claim 9, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-7, 10-13, and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Khominich (US Patent No. 6,103,074).

With respect to claim 1, Khominich discloses an apparatus for enhancement of the stream of plasma particles created by the process of cathode arc vapor deposition (abstract). Fig. 1 depicts a cathode (i.e. target) [19] surrounded by an anode (i.e. housing) [45], where said target [19] is connected via a cathode holder (i.e. fastener) [20]. The target [19] and fastener [20] are connected to a power supply [16] via cooling water conduit [27] (col. 16, lines 39-49). Fig. 1 also depicts several electrodes [21], [23], [28] in the vicinity of the target [19], which are connected to the cooling water conduit (i.e. primary conductor) [27]. The power supply [16] is connected to the apparatus via connectors [36a], [36b] (col. 16, lines 45-49; figs. 1-2), with fig. 2a depicting the connector [36a] connected to an anode feedthrough (i.e. secondary connection) [26] where fig. 1 depicts said anode feedthrough (i.e. secondary conductor) connected to the housing [45]. Fig 1 further depicts several secondary connections [28], [26], [23], [21] also connected to the housing [45].

With respect to claims 2, 4, and 15-17, Khominich further discloses in fig. 1 the outer electrode (i.e. secondary connection) [23] and inner electrode (i.e. secondary connection) [21] concentric to the target [19].

With respect to claim 3, Khominich further discloses in fig. 1 the cooling water conduit (i.e. primary connection) [27] fixed to the fastener [20] on a first plane and secondary connections [21], [23], [26], [28] fixed to a second plane, with both planes being parallel.

With respect to claims 5-7, Khominich further discloses in figs. 1-2 secondary connections [23], [26], [28] located outside the housing [45] and connected via conductors [36a], [36c] to the power supply [16], where the anode (i.e. secondary connections/conductors) is copper (col. 4, lines 1-6). Copper is well known to be a major component in brass.

With respect to claims 10-11, Khominich further discloses in figs. 1- 2 the cooling water conduit (i.e. primary connection) [27] connected to the power supply [16] via connector [36b] (col. 20, lines 45-67).

With respect to claim 12, Khominich further discloses the target (i.e. cathode) [19] composed of copper (col. 16, lines 50-67), thus a layer (i.e. film or foil) of copper is between the target [19] and fastener [20].

With respect to claims 13, Khominich further discloses the cooling water conduit [27] being composed of copper (col. 33, lines 63-64).

5. Claim 14 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Khominich (US Patent No. 6,103,074).

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With respect to claim 14, Khominich further discloses the cooling water conduit (i.e. primary conductor) [27] being composed of copper (col. 33, lines 63-64). Since fig. 1 depicts the cooling water conduit [27] attached to the fastener [20] it is either inherent or obvious that a copper attachment is used to secure the cooling water conduit [27] to the fastener [20].

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Khominich as applied to claim 1 above, and further in view of Kurr (US Patent No. 3,994,795).

With respect to claim 8, the reference is cited as discussed for claim 1. However Khominich is limited in that while it is depicted that the secondary connections (i.e. anodes) are connected to the outside of the housing, it is not suggested as to how said secondary connections are connected.

Kurr teaches a sacrificial anode for use in arc (abstract), where anode segments are welded to a housing structural member (col. 2, lines 19-21).

It would have been obvious to one of ordinary skill in the art to try the welding method of Kurr in an attempt to provide an improved attachment of the anode structure to the housing structure depicted in Khominich, as a person with ordinary skill has good

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reason to pursue the known options within his or her technical grasp in regards to the bonding (i.e. attachment) of two metallic structures.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Khominich (US Patent No. 6,103,074) as applied to claim 1 above, and further in view of Schmidt et al (US Patent 7,087,143).

With respect to claim 9, the reference is cited as discussed for claim 1.

Khominich further discloses in figs. 1-2 secondary connections [26], [28] connected to the power supply [16]. However Khominich is limited in that it is not suggested to have the anodes fashioned as a screw-like.

Schmidt et al teaches a plating system having a threaded anode post [664] a threaded anode adjustment sleeve [663], and an anode height adjuster [646] (col. 3-4, Table 1).

Since both Khominich and Schmidt et al teach methods for conducting electrical charge, it would have been obvious to one of ordinary skill in the art to substitute the simple anode structure of Khominich for the threaded anode structure of Schmidt et al to achieve the predictable result of conducting electricity from a power source to an anode.

Furthermore it would have been obvious to one of ordinary skill in the art to use the threaded anode structure of Schmidt et al for the simple anode structure of Khominich to gain the advantages of a height adjustable anode to gain an apparatus exhibiting greater flexibility.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent Nos. 4,673,477; 5,363,400.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Band whose telephone number is (571) 272-9815. The examiner can normally be reached on Mon-Fri, 8am-4pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on (571) 272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. B./

Examiner, Art Unit 1795

/PATRICK RYAN/



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Supervisory Patent Examiner, Art Unit 1795